# Integrating Human Performance Improvement Into Operations

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2008 ISM Workshop
August 27, 2008

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# Integrating Human Performance Improvement Into Operations

- AMWTP Human Performance Improvement (HPI) Program
- Integrating HPI principles into Operations
- Employee involvement and engagement
- Performance improvement

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# AMWTP HPI Program

- HPI coordinator
- HPI Charter and 5-Year Implementation Plan
- Employee Safety and Improvement Team
  - HPI subcommittee
- 95% of AMWTP employees - HPI principles
- 8 employees - HPI event investigators
- 10 employees advanced HPI fundamentals
- 85% supervision HPI focused pre-job briefings

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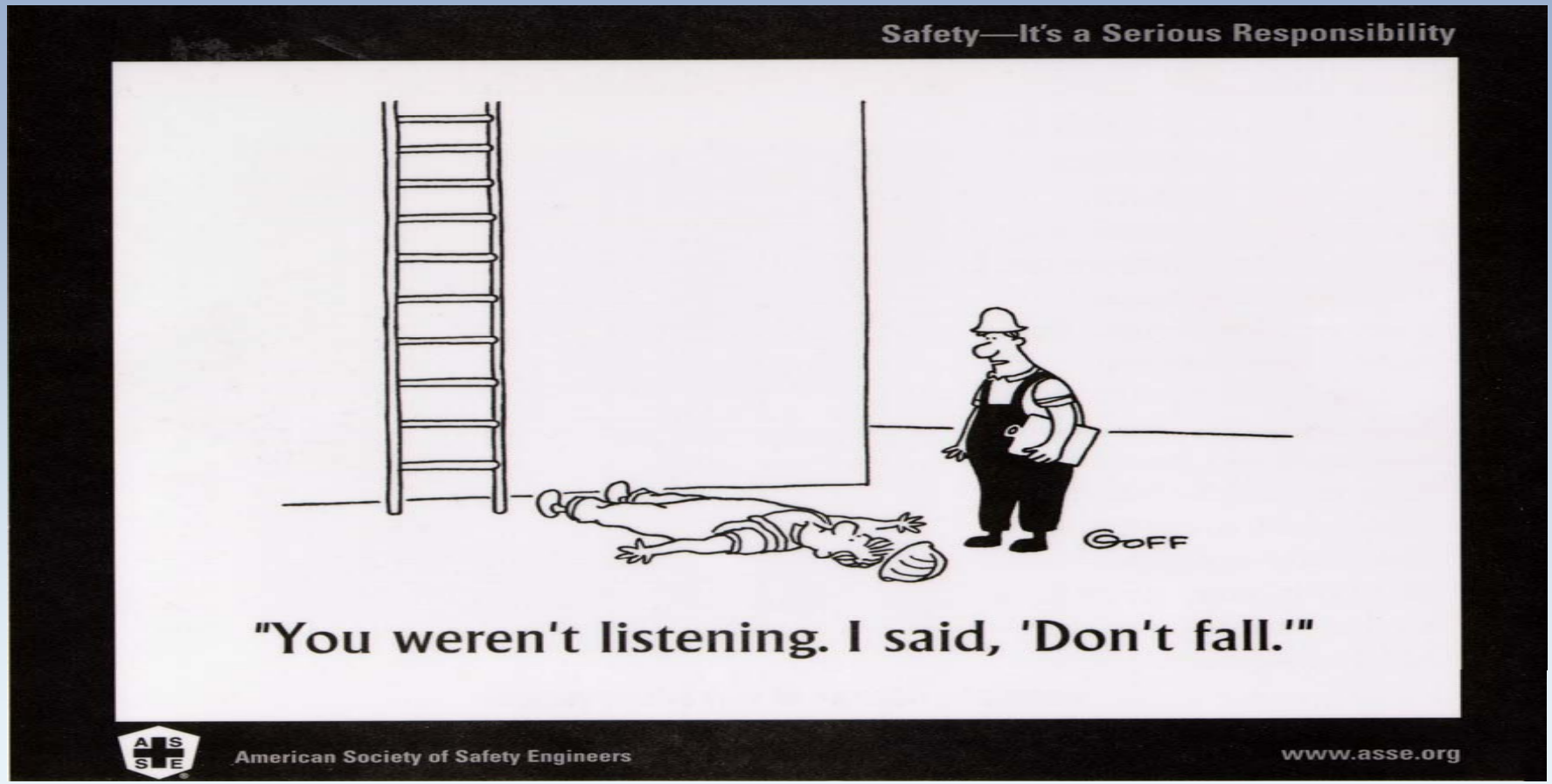
# WHY Human Performance Improvement?



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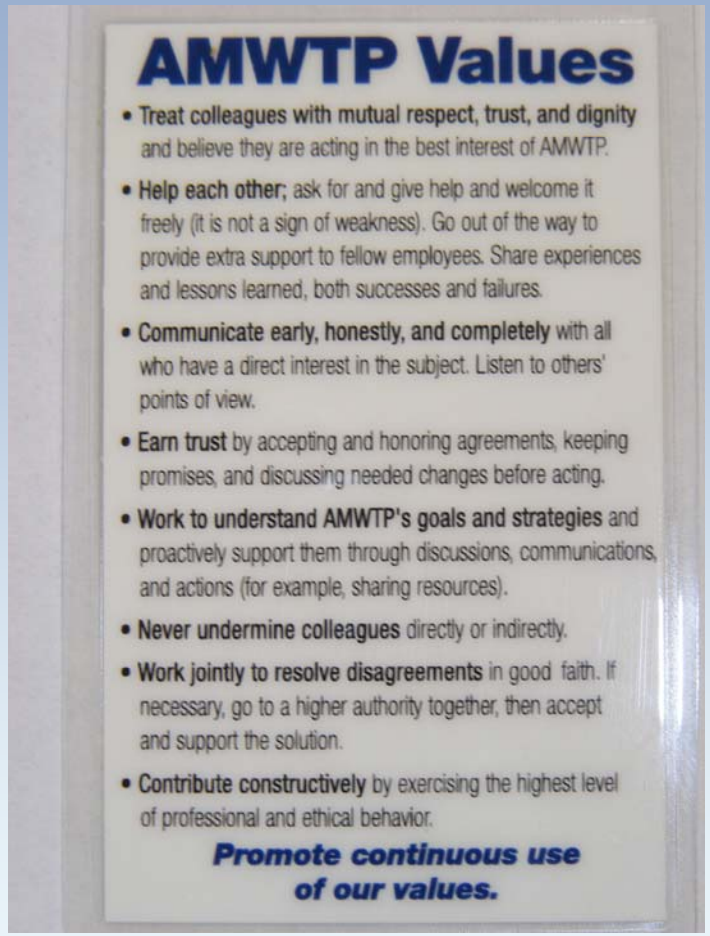
# HPI - Key Principles

- People are fallible - even the best make mistakes
- Error-likely situations are predictable, manageable, and preventable
- Individual behavior is influenced by organizational processes and values
- People achieve high levels of performance based largely on the encouragement and reinforcement received from leaders, peers, and subordinates
- Events can be avoided by understanding the reasons why mistakes occur and applying the lessons learned from past events



## AMWTP Values

- **Treat colleagues with mutual respect, trust, and dignity** and believe they are acting in the best interest of AMWTP.
- **Help each other;** ask for and give help and welcome it freely (it is not a sign of weakness). Go out of the way to provide extra support to fellow employees. Share experiences and lessons learned, both successes and failures.
- **Communicate early, honestly, and completely** with all who have a direct interest in the subject. Listen to others' points of view.
- **Earn trust** by accepting and honoring agreements, keeping promises, and discussing needed changes before acting.
- **Work to understand AMWTP's goals and strategies** and proactively support them through discussions, communications, and actions (for example, sharing resources).
- **Never undermine colleagues** directly or indirectly.
- **Work jointly to resolve disagreements** in good faith. If necessary, go to a higher authority together, then accept and support the solution.
- **Contribute constructively** by exercising the highest level of professional and ethical behavior.

***Promote continuous use of our values.***

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# Is 99.99% Not Good Enough?

- 1 unsafe commercial airline landing every 5 days in Atlanta, GA
- 5 dropped babies ever day
- 2,000 incorrect drug prescriptions every year
- 1 lost time injury ~ every 2 days AMWTP
- 1 dropped waste container ~ every 10 days at AMWTP
- 1 mis-shipped waste container to WIPP per 10,000 ~ 5 AMWTP

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# Integration of HPI Into Operations

- HPI trainers from Operations
- HPI investigators cover ISIH, RadCon, Operations, Operations Support
- HPI section on KEYS observation forms


KEYS - Keeping Everyone and Yourself Safe

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# Employee Involvement

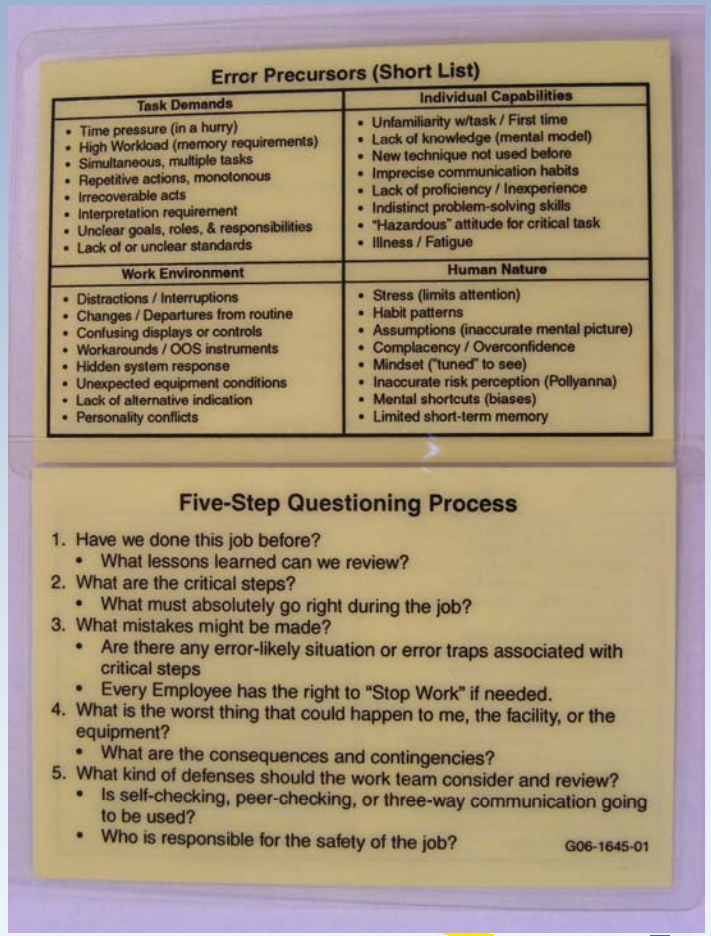

- Pre-job briefs – HPI and five question cards
- HPI Committee represents all of AMWTP
- Safety Bucks – Step Back/Stop Work
- Management reviews/fact findings

# HPI Error Precursors

| Task Demands | Individual Capabilities |
|---|---|
| • Time pressure (in a hurry) | • Unfamiliarity w/ task / First time |
| • High Workload (memory requirements) | • Lack of knowledge (mental model) |
| • Simultaneous, multiple tasks | • New technique not used before |
| • Repetitive actions, monotonous | • Imprecise communication habits |
| • Irrecoverable acts | • Lack of proficiency / Inexperience |
| • Interpretation requirements | • Indistinct problem-solving skills |
| • Unclear goals, roles, & responsibilities | • “Hazardous” attitude for critical task |
| • Lack of or unclear standards | • Illness / Fatigue |
| **Work Environment** | **Human Nature** |
| • Distractions / Interruptions | • Stress (limits attention) |
| • Changes / Departures from routine | • Habit patterns |
| • Confusing displays or controls | • Assumptions (inaccurate mental picture) |
| • Workarounds / OOS instruments | • Complacency / Overconfidence |
| • Hidden system response | • Mindset (“tuned” to see) |
| • Unexpected equipment conditions | • Inaccurate risk perception (Pollyanna) |
| • Lack of alternative indication | • Mental shortcuts (biases) |
| • Personality conflicts | • Limited short-term memory |

# Five-Step Questioning Process

1. Have we done this job before?
2. What are the critical steps?
3. What mistakes might be made?
4. What is the worst thing that could happen to me, the facility, or the equipment?
5. What kind of defenses should the work team consider and review?



**Error Precursors (Short List)**

| Task Demands | Individual Capabilities |
|---|---|
| • Time pressure (in a hurry)<br>• High Workload (memory requirements)<br>• Simultaneous, multiple tasks<br>• Repetitive actions, monotonous<br>• Irrecoverable acts<br>• Interpretation requirement<br>• Unclear goals, roles, & responsibilities<br>• Lack of or unclear standards | • Unfamiliarity w/task / First time<br>• Lack of knowledge (mental model)<br>• New technique not used before<br>• Imprecise communication habits<br>• Lack of proficiency / Inexperience<br>• Indistinct problem-solving skills<br>• "Hazardous" attitude for critical task<br>• Illness / Fatigue |
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**Five-Step Questioning Process**

1. Have we done this job before?
   - What lessons learned can we review?
2. What are the critical steps?
   - What must absolutely go right during the job?
3. What mistakes might be made?
   - Are there any error-likely situation or error traps associated with critical steps
   - Every Employee has the right to "Stop Work" if needed.
4. What is the worst thing that could happen to me, the facility, or the equipment?
   - What are the consequences and contingencies?
5. What kind of defenses should the work team consider and review?
   - Is self-checking, peer-checking, or three-way communication going to be used?
   - Who is responsible for the safety of the job?

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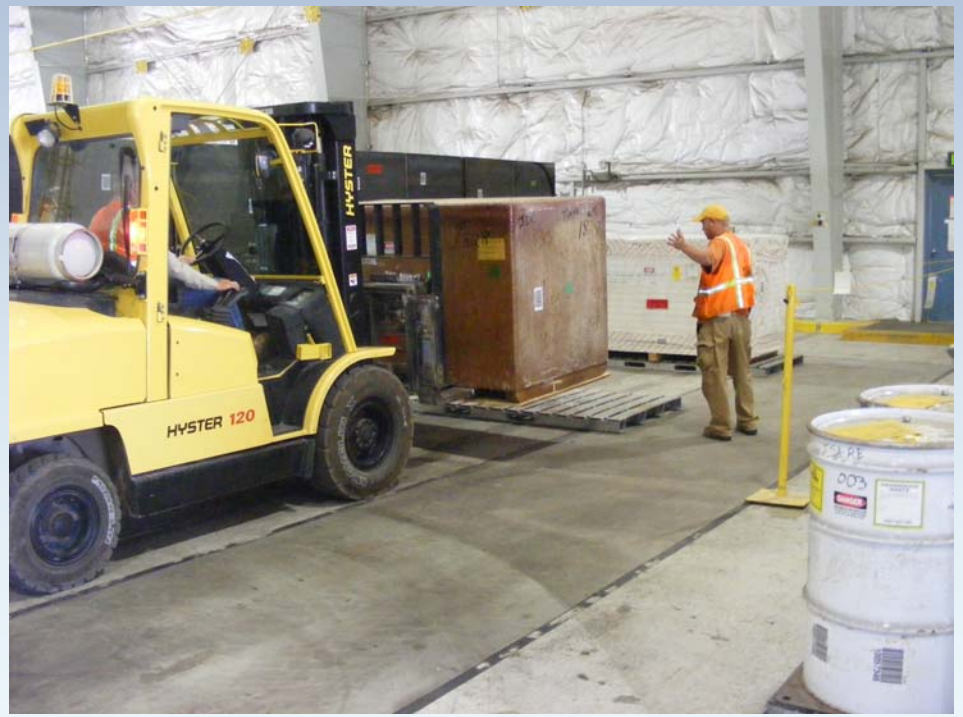
# Performance Improvement

- Reduction of incidents

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# Forklift Impacts Flammable Storage Cabinet

- ~40 yards of backup for forklift
- Tight quarters with turns
- Fear of hitting door or pedestrian opening door while passing
- Backing into rolling stock aisle
- Placement of cabinet in corridor

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# Mis-handled Fiberglass Reinforced Plywood Box – July 7, 2008

- Top three priority move sheets same building
- Three move crews working in same area
- Empty pallet in traffic pattern
- Heavy box congestion in travel lanes
- Preferred forklift not available

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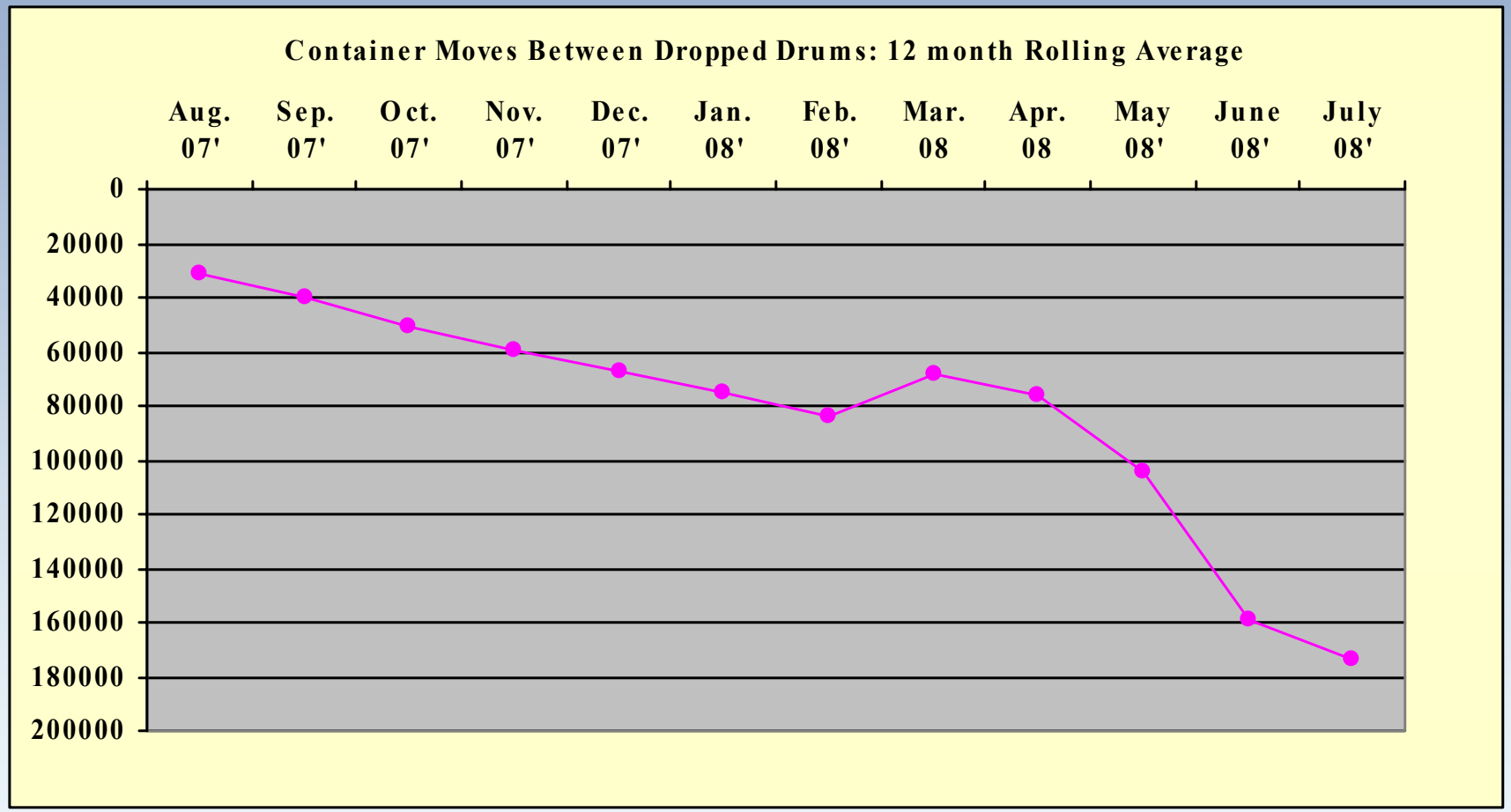
# Rolling Stock Incident Reduction

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# Summary

- Integration of HPI into work processes
- Daily focus on HPI – error precursors
- Employee involvement and engagement
- HPI produces positive results


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